MARINE CORPS SERVICE EXPERIMENTATION OVERVIEW

Background. The Experimentation Campaign Plan's (ECP) service experimentation efforts are guided by inputs from Defense Planning Guidance, CMC Vision, Advocates, Marine Combat Development Command, Office of Naval Research and a variety of other sources. The Marine Corps Requirements Oversight Council (MROC) approves the Warfighting Lab's ECP plan annually.

Command & Control and Information Technology. The Lab is exploring Navy and Joint partnerships to develop Over the Horizon (OTH) communications capabilities and On the Move Digital Combat Operations Centers that will enable Ship to Objective Maneuver (STOM). The Lab will continue to develop Decision Support and Common Tactical Picture tools that will integrate into emerging joint collaborative tools and Common Relevant Operational Picture (CROP) capabilities.

Initiatives include enhancements to Marine Expeditionary Unit (MEU) and infantry battalion Digital Combat Operations Centers (DCOC) to include: standard operating procedures, development of a common tactical database for existing tactical data systems, and on the move surface and airborne COC platforms. Communications initiatives will examine on the move/over the horizon communications between a seabased MEU and subordinate elements operating ashore. This initiative seeks to modify existing point-to-point satellite capabilities into a netted voice and digital tactical communications system. The Lab will also continue to examine squad level communications as well as the potential of transmitting voice communications over existing data networks.

Reconnaissance, Surveillance, Target Acquisition (RSTA). The Lab will examine RSTA tactics, techniques and supporting technologies beginning with the infantry battalion and building to MEB capabilities that integrate into Navy and Joint sensor grids. To develop the RSTA system the lab is examining two components: The networked tactical RSTA grid designed to prevent surprise and provide mutual support for the Marine commander and the Common Tactical Picture (CTP) providing a current comprehensible visual depiction of a prescribed battlespace. Experimentation will assess the adequacy of proposed concepts of employment and the supporting organization required for STOM.

Fires and Maneuver. The Lab continues to explore technology solutions to address improvements in fire support to improve precision, terminal effects, responsiveness, and mobility. The focus of effort has been to address these areas with respect to Expeditionary Maneuver Warfare (EMW) and specifically STOM well as the subset of Military Operations in Urban Terrain (MOUT).

Technological experimentation initially centered on precision targeting systems. Laser range finding systems for the Forward Observer/ Forward Air Controller have been examined along with UAV-borne systems. Results are promising but improvements are required. Other areas of effort include developments in reduced complexity, fires adjudication/ allocation, laser designation systems, and compatible communications.

All systems must be internally transportable in the MV-22 for STOM operations.

Wargames have highlighted the need for a future combat vehicle to enhance maneuver. Advanced Mobility Vehicles are being explored for use during seabased operations. The MAGTF Expeditionary Family of Fighting Vehicles Program (MEEFV) is looking at vehicles for the mobile combined arms MAGTF. Other opportunities for using technology to enhance maneuver are; integration of autonomous systems, enhanced mine detection and neutralization, and predictive diagnostics to reduce logistic requirements ashore.

Logistics. The Lab will examine seabased logistics capabilities needed to sustain a STOM force. Efforts will focus on Marine Air Ground Task Force (MAGTF) Logistics Command and Control. In addition to examining technologies and procedures for digital supply support requests, the Lab will also explore capabilities required by the Combat Service Support Element to maintain situation awareness of ground combat element operations and deploy mobile combat service support detachments on a non-linear battlespace. Software is being developed that provides the MAGTF with automated logistics planning and execution tools that will compliment and be interoperable with current and emerging MAGTF, Naval, and Joint C2 processes and systems. The Lab is also working on computer tools to permit near real time course of action analysis and computer assisted tracking of changes in logistics databases. These tools are the next step in providing the decision support systems to integrate operations and logistics and enhance decision-making.

Another key effort is the Joint High Speed Vessel (HSV). Focus is on Amphibious Task Force interoperability, intra-theater delivery of selected equipment, and the role of the HSV as a critical piece of the seabase. Other logistics related Lab projects include improving health services, supplemental fuel carrying systems, lightweight water purification systems, mine counter measure systems and utility tractors.

Emerging Threats and Opportunities. The Lab will continue to conduct concept exploration and assessment of new threats and opportunities through its Wargaming Division and the Center for Emerging Threats and Opportunities (CETO). CETO serves as a catalyst to stimulate thought and to debate issues of importance to the Marine Corps. Current areas of interest include but are not limited to base security assessments, forcible entry study, cultural intelligence seminars, and regional area studies. The Lab will seek to identify means to better support the Marine Corps operating forces and Expeditionary Force Development in order to shape Marine Corps capabilities in the face of terrorism, increased focus on Homeland security, and changes in the overall international security environment.

Wargaming. The Marine Corps Wargaming Program is a comprehensive and innovative effort focused on advanced policy, concept, and operational exploration at several levels: Title X Wargaming, Joint and external gaming efforts, and a broad and diverse array of Service programs.

Title X Wargaming efforts will be considerable and will consist of two broad components. The first is the management, oversight, and assessment of Marine Corps participation in other Service-sponsored Title X War Games. The second is the execution and assessment of the Marine Corps' Title X Wargaming Program, *Expeditionary Warrior*. Expeditionary

Warrior will be a series of smaller, more focused games and related events that can either be connected by a common theme or address discrete issues of particular concern to leaders.

Joint and external wargames are broader and a less well-defined aspect of the USMC wargaming effort. Examples include the Office of the Secretary of Defense (OSD) Net Assessment's Revolution in Military Affairs and Transformation War Game Series. Also included are relevant gaming efforts of other Services not encompassed by Title X programs.

Marne Corps wargaming programs embrace an extensive array of activities that are planned and executed. These may include Joint, interagency, and even non-governmental participation. Marine Corps war games have been developed for various themes including but not limited to experimentation, combating terrorism, expeditionary/Naval, dynamic decision-making, urban warfare, homeland defense, and exploratory/future gaming. These war games are used to assess a broad range of "war" related issues for leadership use.